

In the claims:

1-9. (canceled)

10. (currently amended) A PCB decomposition reactor comprising:

(a) a reaction vessel for decomposing PCB therein; and

(b) a feed pipe for feeding PCB and a solvent therefore to said reaction vessel,

wherein an injector for injecting water and sodium hydroxide from the outside to the inside of said reaction vessel is connected to said reaction vessel, said injector comprising a suction port, [[and]] wherein said feed pipe is connected to [[the]] a flow path between the connected an end of said injector and the suction port of said injector for supplying water and sodium hydroxide therethrough such that the pH in the reaction vessel is from about pH 7.5 to about pH 13, wherein the sodium hydroxide is supplied to said reaction vessel in an amount of about 1 to about 2 moles per mole of PCB in order to form sodium carbonate so as to fall within a range which does not cause any excess sodium carbonate to precipitate, and wherein a nozzle for introducing air in order to agitate the reaction fluid within said reaction vessel is connected to the bottom of said reaction vessel.

11. (currently amended) A PCB decomposition reactor comprising:

(a) a reaction vessel for decomposing PCB therein; and

(b) a feed pipe for feeding PCB and a solvent therefore to said reaction vessel,

wherein an injector for injecting water and sodium hydroxide from the outside to the inside of said reaction vessel is connected to said reaction vessel, said injector comprising a suction port, [[and]] wherein said feed pipe is connected to [[the]] a flow path between the connected an end of said injector and the suction port of said injector for supplying water and sodium hydroxide therethrough such that the pH in the reaction vessel is from about pH 7.5 to about pH 13, wherein the sodium hydroxide is supplied to said reaction vessel in an amount of about 1 to about 2 moles per mole of PCB in order to form sodium carbonate so as to fall within a range which does not cause any excess sodium carbonate to precipitate, and wherein a nozzle for introducing oxygen in order to agitate the reaction fluid within said reaction vessel is connected to the bottom of said reaction vessel.

12. (currently amended) A PCB decomposition reactor comprising:

(a) ___ a reaction vessel for decomposing PCB therein;[[and]]

(b) ___ a feed pipe for feeding PCB and a solvent therefore to said reaction vessel, wherein an injector for injecting water and sodium hydroxide from the outside to the inside of said reaction vessel is connected to said reaction vessel, said injector comprising a suction port,[[and]] wherein said feed pipe is connected to[[the]] a flow path between the connected an end of said injector and the suction port of said injector for supplying water and sodium hydroxide therethrough such that the pH in the reaction vessel is from about pH 7.5 to about pH 13, wherein the sodium hydroxide is supplied to said reaction vessel in an amount of about 1 to about 2 moles per mole of PCB in order to form sodium carbonate so as to fall within a range which does not cause any excess sodium carbonate to precipitate, and wherein a nozzle for introducing air and oxygen in order to agitate the reaction fluid within said reaction vessel is connected to the bottom of said reaction vessel.

13–16. (canceled)